

1: Clin Obstet Gynecol 1999 Dec;42(4):802-19

Controversies in tocolytic therapy.

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In general, tocolytic agents are effective in stopping uterine contractions and in temporarily delaying delivery. The benefit of stopping uterine contractions is dependent on the fetal status and gestational age. The rationale for stopping preterm labor is to improve neonatal outcome. At this time, the best way to improve neonatal outcome would be to assure delivery in a center capable of caring for a preterm infant and prescription of glucocorticoids to decrease the risk of respiratory distress syndrome and other neonatal complications. Intravenous tocolysis for premature labor has found a prominent place in the obstetrician's armamentarium. We recommend the use of magnesium sulfate as first-line therapy. When comparing maternal and fetal risks, side effects, and safety profile, magnesium sulfate is superior to beta-mimetics; however, there are still significant problems with potential morbidity and mortality for both mother and fetus with any tocolytics. Adjunctive use of indomethacin with magnesium sulfate may be used through 32 weeks for up to 48 hours at a time. Most tocolytics are effective in stopping labor for 48-72 hours. None have been shown to decrease the rate of preterm delivery. Once the uterus is quiescent and intravenous tocolytics are stopped, prolonged use of tocolytics has not been shown to be effective in preventing preterm birth. Tocolytics have significant long-term side effects to the mother's cardiovascular system, carbohydrate metabolism, and the fetal cardiovascular system. Thus, the prolonged use of prophylactic tocolytics after cessation of intravenous medications is not recommended. Tocolytics may be an appropriate therapy during preterm labor vaginal bleeding, ruptured membranes, multiple gestation, or advanced cervical dilatation. In all situations, however, careful guidelines must be observed. These guidelines include: (1) maternal and fetal well-being must be established before tocolytic therapy; (2) causes of preterm labor should be evaluated and treated when possible; (3) the risk/benefit ratio for both the mother and fetus must be re-evaluated on an ongoing basis; (4) when tocolytics are given before pulmonary maturity, then antenatal corticosteroids also should be considered in every case; (5) long-term use of tocolytics is difficult to justify at this time; (6) the safest tocolytic should be used for the shortest amount of time possible. It is doubtful, because of the nature of tocolytics, that newer tocolytics will be developed that will eliminate the problems of preterm delivery. Preterm delivery is an end-stage symptom of a multifactorial disease. Preterm labor is one of the last symptoms in a cascade of biochemical events that lead to preterm delivery. The most appropriate way to end preterm delivery would be to prevent the causes that initiate the cascade that ends in preterm labor. Authors' Note: Literally hundreds of papers have been written in the last 30 years on tocolysis. For the purposes of space, when studies are summarized in peer-reviewed articles, we have referenced the reviews instead of the individual studies.

Publication Types:

Review

Review, Tutorial

PMID: 10572695 [PubMed - indexed for MEDLINE]

1: Eur J Pediatr 1999 Dec;158 Suppl 1:S2-4

The prevention of preterm birth with the use of antibiotics.

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Infection is a well recognised cause of spontaneous early preterm labour. Preterm labour of infective aetiology is refractory to the use of tocolytic agents and affected women have a higher risk of subsequent chorio-amnionitis and neonatal infection. Antibiotics used prophylactically for the prevention of preterm labour are more likely to be successful if given systemically. Intravaginal antibiotics are only likely to be of benefit if they are used early in the second trimester and in those women in whom there is full expression of abnormal genital tract flora (grade III bacterial vaginosis on Gram stain of vaginal secretions). Antibiotic treatment for women far removed from term offers significant benefit with respect to pregnancy prolongation. The value of extended antibiotic treatment is unclear since this may lead to the development of resistant bacterial strains. CONCLUSION: The evidence with respect to the use of antibiotics for women in preterm labour is inconsistent though there is a trend toward benefit.

Publication Types:

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